Sections of the appendix showed marked irregular overgrowth of the epithelium invading all the deeper tissues. The masses of new-growth in most places had undergone a complete colloidal degeneration, but in some parts typical glandular carcinoma formation was seen, the glandular epithelium being greatly proliferated and invading the tissues below the basement membrane. Other portions showed masses of irregular epithelial cells, with the colloidal changes not so extreme. Sections of the mesenteric gland showed the glandular tissue replaced by irregular masses of epithelial cells, for the most part showing extreme colloidal degeneration.

The specimen is of interest chiefly as a pathological rarity. In 1900 A. O. J. Kelly[2] collected 20 cases, and in 1905 was able to increase the number to 40.[3] Elting[4] collected 43 cases, but admits only 23 as undoubted instances of the condition. In 1906 Rolleston and Jones[5] published a very valuable study of 42 cases of undoubted primary malignant disease of the appendix, of which 37 cases were examples of different types of carcinoma. Many of the cases were only discovered in the routine examination of appendices removed at operation.

THE MANAGEMENT OF LABOR IN MINOR DEGREES OF PELVIC CONTRACTION, WITH SPECIAL REFERENCE TO THE RELATIVE INDICATIONS FOR ABDOMINAL CESAREAN SECTION.[1]

A TABULATED REPORT OF EIGHTEEN CESAREAN SECTIONS.

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For a long time the maternal mortality of Cesarean section was so high that the operation was considered one of last resort. The death rate ran from 50 to 60 per cent., and Budin made the statement that not a single successful operation was performed in Paris from 1787 to 1876. Harris published statistics of the result in this country which discouraged anyone from undertaking the operation, and reported 11 operations in New York, with 10 deaths. The improved technique inaugurated by Sanger twenty-five years ago, however, placed the operation on a different footing. Under the new conditions, that have since obtained, the borderline between absolute and relative indications has been changed and increased about 2 cm. In 1901 Williams,[2] of Baltimore, advocated that the absolute indications be changed from 5 to 7 cm. in the justominor pelvis, and from 5.5 to 7.5 cm. in the simple flat pelvis. This proposition has been endorsed by Webster, Jewett, and Edgar. Dorland and Hirst make it 6.5 cm.; Peterson, 6.2 cm. Edgar makes a distinction between the presence of a living and a dead infant, the absolute indications being 7.6 cm. and 6.3 cm., respectively. The relative indications run from these minimal diameters up to 8.5 cm. in the simple flat, and 9 cm. in the justominor pelvis. Above these measurements it is generally conceded that a living infant can be extracted through the natural passages.

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[2] Proc. Path. Soc., Philadelphia, 1900, p. 109.

[3] Treatise on Appendicitis, by John B. Deaver, chapter on Pathology, third edition, 1905, p. 143.

[4] Annals of Surgery, April, 1903, p. 549.

[5] Amer. Jour. Med. Sci., 1906, cxxxi, 951.

[1] Read at a meeting of the Southern Surgical and Gynecological Association, New Orleans, December 17, 18, 19, 1907.

All operators recognize the importance of early surgical interference before the woman has gone through the exhaustion of prolonged labor pains, and particularly before employing forceps and manipulations that may produce infection.

Reynolds,[3] of Boston, in a valuable paper, has classified Cesarean sections as primary, secondary, and late. The primary include cases operated upon just in advance of the time of expected labor; the secondary, those performed after a few hours of labor; and the late, those performed after labor has been allowed to go on for some time, and when it has been clearly demonstrated that the natural forces cannot overcome the obstruction at the pelvic inlet. He reported 289 operations during the last ten years by twenty different operators. The mortality in the first class was 1 death in 82 cases (1.2 per cent.); in the second, 158 cases, with 6 deaths (4 per cent.); and in the third, 49 cases, with 6 deaths (12 per cent.). The death rate was clearly proportionate to the duration of labor before operation.

Some obstetricians object to elective Cesarean section because they fear that defective drainage through the undilated cervix will give rise to infection. On that account they prefer to let the first stage progress far enough to open the cervical canal. All agree, however, on one point, and that is, not to let the labor progress until the woman is exhausted or infected. A high mortality and discredit to the operation are the result of its performance under opposite conditions.

To see the cases early, to recognize the possible necessity for Cesarean section, and to conduct the labor accordingly are the great needs of modern obstetric surgery. A large proportion of obstetric work falls into the hands of the general practitioner, and it behooves him to rise to the occasion and to recognize early the cases of disproportion between the infant's head and the maternal pelvis. Too often he fails to do this until the situation is forced upon him by a long and exhaustive second stage, or, still worse, after the injudicious and fruitless use of forceps. The life of the infant is then seriously jeopardized, and the time for a successful Cesarean section is passed. The general practitioner is now more familiar with the symptoms of ectopic pregnancy, and his prompt diagnosis saves many lives; he should be equally wide awake to recognize pelvic deformity. First, he should be taught the frequency of the existence of pelvic deformity, and the importance of pelvimetry; and second, he should make it a rule of practice to examine all pregnant women by palpation and pelvimetry in the last month of pregnancy.

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[2] Trans. Amer. Gynecological Society.

[3] Ibid., 1907.

It is the common belief that pelvic deformity is of infrequent occurrence. This is because the condition is overlooked. It is like the doctor who says he has been practising obstetrics twenty years and never saw a lacerated perineum. He has never looked for it.

Edgar says pelvic contraction is often found in women who frequent dispensaries and hospitals. It is true that it is more commonly found in this class, but the complication is not rare in the higher social scale. Modern social life tends to degeneration of the child-bearing functions. Dysmenorrhœa, sterility, undeveloped generative organs, mammary glands, and pelves are the evidences of ill equipment. The generative organs are the last to develop in the growing girl, and, unfortunately, the period of maturity coincides with the period of greatest nervous and physical strain. At this critical time the allurements of society entice the young girl prematurely within its toils. Williams estimates that every fourteenth white, and every sixth colored woman in Baltimore has a contracted pelvis. By far the most common types of deformity are the generally contracted and the simple flat pelvis. The relative frequency of these two types depends largely upon the class of women among whom one works.

Jewett says the simple flat pelvis is a common variety in Europe, but rare in America. Grandin and Jarman, on the other hand, state that the flattened pelvis is a type frequently found, while the justominor is of infrequent occurrence. My own observations, made in Washington, agree with those of Williams, Edgar, and Hirst, that the justominor is the prevailing type of deformity. Williams found it in one-third of all the contracted pelves occurring in the white, and in two-thirds of those in the black women. Hirst says the justominor pelvis is certainly as common in Philadelphia as the simple flat pelvis; and if one judges from hospital patients, among whom there is a large proportion of shop and factory girls, this variety of contracted pelvis would be regarded as the commonest. Dorland entertains the same views. Obstetricians living in the Southern States of this country, where there is a large negro population, find the generally contracted pelvis largely in preponderance.

Investigation by Dr. Edgar Snowden of the records of the Columbia Hospital gives the following results in 532 cases (white 131, colored 401):

	(Approximately) Per cent.
White, all the external pelvic diameters normal	53
Colored, all the external pelvic diameters normal	45
White, all the external pelvic diameters above normal	3
Colored, all the external pelvic diameters above normal	..
White, all the external pelvic diameters diminished	25
Colored, all the external pelvic diameters diminished	49
White, simple flat pelvis	20
Colored, simple flat pelvis	5

According to these figures the measurements indicating the simple flat type of pelvis occurred in 20 per cent. of the white, and only 5 per cent. in the colored women, while those pointing to the existence of a generally contracted pelvis occurred nearly twice as often in the colored women, being 48 per cent. and 25 per cent., respectively. It is not claimed that all of these women had simple flat and justominor pelves. The external conjugate measured less than 20 cm. in all; in some it was as low as 15 cm., and the other external diameters were correspondingly reduced. Owing to the varying thickness of the sacrum, the length of the external conjugate is not a reliable index of the length of the internal. A few centimeters more or less may not indicate anything. It is usually stated that when the external conjugate measures between 19 and 18 cm., the true conjugate will be shortened in 50 per cent. of the cases, and when below 17 cm. it is nearly always indicative of pelvic contraction. This is not true, especially if applied to the negro woman, in whom a normal diagonal conjugate is frequently found under these circumstances. It is a matter of common observation that an external conjugate of 19, 18, 17, or 16 cm. is found, and yet many of the women are delivered after a natural labor. One of two conditions exists: (1) The external conjugate is diminished, but the internal is normal. This is due to thinness of the sacrum, and is found in women who possess small structural development of the skeleton. (2) There is some diminution of the obstetric conjugate or of all the internal pelvic diameters, but nature takes care of these women by giving a small baby to pass through a small pelvis. The product of conception is small and the pelvis is small because of non-development of infant and mother. The relation between the diminished weight of the infant and the degree of shortening of the external conjugate diameter of the mother's pelvis is shown by the accompanying chart and is based upon the averages of 272 observations.

On the other hand, it is claimed that contraction of the internal conjugate is rarely found to exist when the external measures 20 cm. or more. In Case 18 of the series of Cesarean sections reported in this paper the external conjugate measured 20.5 cm. The other external diameters were also normal or above, and yet the woman had a contracted pelvis, with a true conjugate of 9 cm. ($3\frac{3}{5}$ inches). Another patient recently came under my observation with an external conjugate of 20 cm., and the woman had a true conjugate of only 7.5 cm. (3 inches). The interspinous was 25, and intercrestal 28 cm. The only external measurements to excite suspicion were the right and left obliques, which were 2 to 3 cm. short. At her first labor I effected delivery by symphysiotomy. One year later she entered the hospital at the seventh month of pregnancy in premature labor. The waters had escaped and the legs of the infant were in the vagina. Although a small premature infant, it was delivered dead by traction, aided by strong suprapubic pressure.

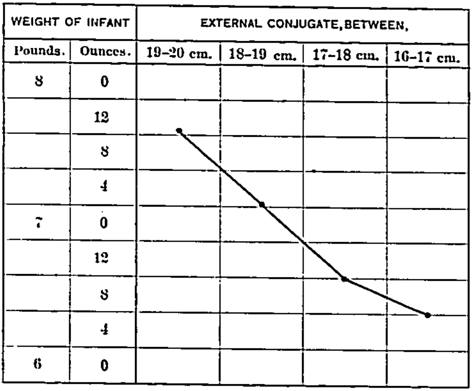

Chart illustrating the relation between the weight of the infant and the shortening of the external conjugate diameter of the maternal pelvis.

The importance of measuring the external oblique is not generally recognized. At the San Francisco Maternity the classification of pelves is based upon the length of these external diameters and the true conjugate. Another case illustrating the importance of the length of the external obliques was examined within the past few days. The woman had been delivered by difficult high forceps extraction twice, with both babies large and dead. She was five months pregnant with her third gestation when I examined her with her physician, Dr. D'Arcy Magee. All of the diameters were normal (including the diagonal conjugate) except the external obliques. The right was 20 cm., and left 19 cm. The internal obliques were clearly diminished by the encroachment of the iliac planes within the pelvic space. Between the spines, 24.5 cm.; between the crests, 25 cm.; between the tuber ischii, 11 cm.; external conjugate, 20 cm. This patient will be put on Prochownick's diet after the sixth month of gestation, and will be delivered by the induction of premature labor, or by Cesarean section at term early in April, 1908.

Pelvimetry should be performed at the eighth month of pregnancy in all primiparæ, and in those multiparæ who have passed through difficult labors. If neglected until the advent of labor, it should be done then in all cases when the head is high, and especially before any attempts are made to deliver by forceps. Shortening or disproportion of any of the pelvic diameters should always excite suspicion. One can clearly understand the importance of the practice of pelvimetry by all practitioners who undertake obstetric work. Unnecessary complications make it unpopular. Some of these are the useless refinements of the measurements, including small fractions of a centimeter or inch, and the many varieties of pelvimeters which claim to possess particular advantages for accurately measuring the diameters of the maternal pelvis and the fœtal head.

In minor degrees of pelvic contraction the length of the pelvic diameters alone is not all important; the size of the infant's head alone is not all important; it is the relative disproportion between the head and the pelvis. Can this head mold and pass through this pelvis? is the question to decide. The answer must be sought by the result of palpation. Palpation requires no complicated instruments, and a little practice enables one to obtain valuable information. By it the obstetrician can ascertian the size of the uterine tumor, the relative proportion of the contents—infant and amniotic fluid, and consequently can form a fairly accurate opinion of the size of the infant—whether small, of average size, or large. The position of the infant is made out, and, if it is a head presentation, whether or not the head is engaged within the inlet. If not engaged, can it be made to do so by pressure in the line of the axis of the superior strait? In a primipara the head should be always engaged, under normal conditions, and descended within the pelvic cavity after the eighth month of gestation; in a multipara, if disengaged and movable above the brim, it ought to engage by suprapelvic pressure, with or without anesthesia.

In minor degrees of pelvic contraction, discovered in the thirty-second week of pregnancy, modern obstetric practice points out three lines of treatment: (1) The induction of premature labor; (2) elective Cesarean section; and (3) delay until labor has demonstrated the resources of nature; then (*a*) spontaneous delivery; (*b*) version; (*c*) axis-traction forceps; (*d*) Cesarean section; (*e*) symphysiotomy or pubiotomy; or (*f*) craniotomy.

1. THE INDUCTION OF PREMATURE LABOR. We must recognize that there is a slight increase of danger to the mother, and a very material risk to the infant, by this method. The earlier the interference is required the greater the risk to the infant; therefore, the

inducing of premature labor is not justified before the completion of the thirty-sixth week of pregnancy, unless the mother has previously given birth to very big babies. Beginning at the thirty-second week, the case should be tested weekly to see that the head can be pressed down into the inlet. If it can be carried on in this way to the thirty-sixth or thirty-seventh week, labor may be induced. If engagement cannot be made successfully before that time, it is not, as a rule, a proper case for the induction of premature labor. If the disproportion be decided, it is a case for elective Cesarean section; if not decided, it may go to full term, and after labor pains have been in progress for several hours it may still be a proper case for section, unless there is good assurance of a successful delivery through the natural passages.

Whether labor has been induced or is spontaneous, the case should be conducted along such lines that the patient will be in a favorable condition for Cesarean section. should it prove advisable. Few examinations should be made, and these with the most rigid aseptic precautions.

In case molding and engagement have occurred, and the conditions give promise of a successful forceps delivery, the woman should be placed in the Walcher position and the instruments employed. If failure results, and the efforts at artificial delivery have not been protracted, the course of action must be guided by the condition of the infant. If its life has been seriously jeopardized, or if destroyed, craniotomy is indicated. If the heart-sounds of the infant be good, and there is hope of saving it, symphysiotomy or pubiotomy is called for.

2. ELECTIVE CESAREAN SECTION. When the disproportion between the diameters of the fœtal head and the mother's pelvis is decided, and the head cannot be forced into the inlet by pressure under chloroform, the chance of a successful delivery by the natural passages is so small that Cesarean section should be performed at a period shortly anticipating full term. The best results of the operation are obtained in these cases. If the os be patulous, no trouble will be met with from deficient drainage; if not, it may be dilated from above downward and a gauze drain inserted. Others might prefer, under the latter circumstances, to wait long enough for labor pains to effect some dilatation. My first Cesarean section was performed in 1890.[4] On the fifth day the temperature rose to 101.5°, and the lochia had a bad odor. The cervix was small and the os closed. The canal was dilated with steel instruments, the uterine cavity explored and washed out with a 2 per cent. solution of carbolic acid. The immediate effect of the manipulation was to increase the temperature to 104°; it fell to 99.8° that evening, and then remained normal.

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[4] Trans. Amer. Gynecological Society, 1890.

3. Delay until Labor Has Demonstrated the Resources of Nature. This course should be pursued when the disproportion is not great and there is good ground to hope for delivery by the natural passages.

(*a*) In the most favorable cases spontaneous delivery will take place. In minor degrees of pelvic contraction it has occurred in two-thirds of the cases. Molding, engagement, and descent of the head, with good labor pains, hold out promise of success.

(*b*) and (*c*) If failure results, version and axis-traction are held in reserve. Interference by either of these methods should not be attempted unless there is every reason to expect a successful issue. Failure jeopardizes the chances of a subsequent abdominal section.

In deciding between version and high forceps, the choice should be guided by the experience of the individual operator—some prefering one, and some the other. Version is contraindicated in the justominor pelvis, as a rule. Some obstetricians perform version if the head be movable above the inlet, and the high forceps operation if engaged. Personally, I believe it is obsolete practice to perform version or the high forceps operation in any case when a test of labor pains fails to engage the head and the head cannot be forced through the brim of the pelvis with the patient under chloroform. This statement will be challenged by some obstetricians whose opinions are colored by the teachings of the Dublin and Edinburgh schools.

Wright, of Toronto, gives this advice in his text-book of *Obstetrics:* "If, at the end of one hour (of labor) the head shows no tendency to engage the brim, turn and treat as an ordinary pelvic presentation." Again, in minor degrees of contraction of the conjugate (4 to 3½ inches—10 to 8 cm.), "perform version as soon as possible, and treat as an ordinary breach case; or allow the head to mold through the brim, and let nature complete the delivery; or allow the head to mold two or three hours, and then use forceps."

The work of Milne Murray has advanced the claims of high forceps, and he is reported as having successfully delivered infants by this means, with the woman in the Walcher position, through a conjugate of 3¼ to 3½ inches (8 or 8.75 cm.).

Lapthorn Smith, of Montreal, says: "I am strongly in favor of high forceps rather than turning in minor degrees of pelvic contraction. I have delivered a living child with high forceps when labor had been going on furiously for twenty-four hours without the head having engaged at the superior strait."

Others are not enthusiastic supporters of either axis-traction or version in minor degrees of contraction.

Reuben Peterson[5] says: "I do not favor high forceps as a treatment of minor degrees of pelvic contraction. I think it is one of the most dangerous operations for both mother and child that we have in obstetrics. Versions are a little better, but not much."

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[5] Personal communication.

Joseph B. De Lee[6] says: "Regarding high forceps and version in contracted pelvis, I am using both less and less, as they are very serious operations for mother, and also for babe. I avoid them by inducing labor, and by Cesarean section."

E. G. Grandin[7] says: "Version would be my choice with head not engaged, cervix dilated or dilatable, membranes unruptured or just ruptured. High forceps, head not engaged, I never counsel."

E. Gustave Zinke:[8] "If, in a given case, I cannot deliver the patient with any degree of assurance of safety with the high forceps application or version, I prefer to do a Cesarean section."

Franklin S. Newell:[9] "Personally I prefer the abdominal route in all cases in a condition to go through the operation, where there is any reasonable doubt about the ability to abstract a living child through the pelvis, for I believe in proper hands the prognosis of Cesarean section, in proper cases at least, is no worse than that of version or high forceps. . . . The question of choice of operation between high forceps and version always appears to me in this way: that if a high forceps is attempted carefully, and fails, version can be subsequently performed; whereas, if version is performed as the primary operation, and fails, we have no operation left except a destructive one, for we have sacrificed the chances of the baby. So that personally I prefer a high forceps, or at least an attempted high forceps, in all cases of head presentation in which I have decided to deliver *per vias naturales*, rather than to perform a primary version. I recognize that it is a matter of personal equation, and I consider version a somewhat more dangerous, but also more efficient, operation than high forceps. I strongly believe, however, that we should extend our indications for Cesarean section to include the majority of cases in which high forceps or version may be rendered necessary by pelvic contractions."

Guided by these expressions of opinion, and by my own experience, I believe that in cases of labor in minor degrees of pelvic contraction one should "delay until labor has demonstrated the resources of nature," and then act as follows: After from two to six hours of labor, according to the severity of the pains, if the head has not engaged, perform Cesarean section, and not forceps or version. If the head has engaged, attempt a careful application of the axis traction with the woman in the Walcher position, and if the result does not give some assurance of success, perform Cesarean section. I believe version and axis-traction, with the head disengaged, are contraindicated by modern obstetric practice.

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[6] Personal communication.

[7] Personal communication. In 1890 Grandin published a paper in the Transactions of the American Gynecological Society, expressing advanced views advocating Cesarean section, which practically cover the ground taken in this paper.

[8] Personal communication.

[9] Personal communication.

(*d*) The indications for delivery by Cesarean section should cover cases of minor degrees of pelvic contraction when a few hours of labor pains demonstrate the inability of Nature to mold and engage the head. This indication should be extended to embrace those borderline cases in which the true conjugate is even as much or more than 8.5 cm. for the justominor, and 9 cm. for the simple contracted pelvis. Inability to force the head through the inlet under chloroform should be recognized as a justification for the operation, regardless of the degree of contraction.

Case XVIII of the series reported herewith illustrates this position. The woman entered the Columbian Hospital in the beginning of her fourth labor. The first labor was terminated successfully with a difficult high forceps operation. The infant was not as large as the subsequent ones, and survived with bad head injuries. The second and third labors were terminated in the same way, and both infants were delivered dead. The external pelvic measurements were unusually good: Interspinous, 25.0 cm.; intercrestal, 28.0 cm.; external conjugate, 20.5 cm.; and diagnonal conjugate, 10.5 cm. The woman had a simple contracted pelvis, with an estimated true conjugate of 9 cm. ($3\frac{3}{5}$ in.). Under chloroform, the head could not be made to pass the inlet. She was delivered by section and left the hospital in good condition at the end of three weeks. Her infant weighed $9\frac{3}{4}$ pounds and was vigorous and did well. At the woman's request to be made sterile her tubes were cut and the ends turned in between the folds of the broad ligaments.

High forceps extraction would have sacrificed the infant's life and been as dangerous to the mother as the section. Labor might have been terminated by version with little risk to the mother, but much danger to the infant—a biparietal diameter of 9.75 cm., with a well ossified head, would have had to pass through a conjugate diameter of 9 cm. Symphysiotomy or pubiotomy would most likely have saved both mother and infant, but the tedious convalescence was a deterrent. Also, delivery by any of those methods—forceps, version, symphysiotomy, or pubiotomy—would have left the woman exposed to the risk of subsequent pregnancies and labors. Therefore, in this case, or any similar case, when the head remains above the brim after several hours of labor pains, and when it cannot be made to engage by strong suprapubic pressure under chloroform, modern obstetric surgery points to the advantage of Cesarean section.

Cases XIV, XV, XVI, and XVII were justominor pelves, and labor had continued from twelve to thirty hours without engagement of the head. Three were primiparæ, and Case XVI had previously given birth to a dead infant. A brief report of these cases is as follows:

Case XIV.—B. J., colored, aged seventeen years, occupation laundress, single, was admitted to Columbian Hospital May 23, 1907. Pelvic measurements gave a justominor pelvis with a true conjugate of 8.5 cm. (3⅖ in.). True labor pains began 8 A.M., May 24, and at 7.30 P.M. became quite strong. Examination under chloroform, head not engaged. Cervix dilated manually. At 11.30 membranes ruptured artificially; head tightly wedged in the brim. Forceps tried unsuccessfully. Cesarean section at 1.30 A.M., May 25. Baby delivered in three minutes; time of operation, thirty-two minutes. Patient developed considerable fever, which, on the fifth day reaching 104°, and dropped to normal on the ninth day. She sat up on the nineteenth day and went home on the twenty-fourth day. Mother and baby did well. Weight of baby at birth, 8¾ pounds.

Case XV.—D. T., colored, aged twenty-six years, housewife; admitted to hospital May 27, 1907, at 5.25 A.M., having been in labor for fourteen hours; pains very strong. Justominor pelvis; true conjugate, 7 cm. (2⅘ in.). The patient had been examined by a midwife four times without regard to asepsis, and lard was used as a lubricant for the fingers. Cesarean section performed at 1.30 P.M. Time of operation, thirty-three minutes. Highest temperature, 101.5°, on the second day; reached normal on the sixth day. Abdominal distention relieved by stomach tube. Discharged June 27, in good condition. Baby weighed 7 pounds 6 ounces; not strong at time of leaving hospital.

Case XVI.—K. L., colored, aged twenty years, married, housewife, was admitted April 18, with tertiary syphilis, condylomas on the right side of the vulva. Symptoms cleared up in two weeks by specific treatment. Justominor pelvis; true conjugate 9 cm. (3⅗ in.). Labor began 2 A.M., May 27, 1907. After twelve hours of labor the head had not engaged, and could not be forced into the pelvis by pressure under chloroform. Cesarean section performed at 3 P.M. Baby delivered in 2½ minutes; time of operation, 37 minutes. Recovered without complication; baby alive and weighed 5 pounds 14 ounces.

Case XVII.—M. T., colored, aged thirteen years, single, admitted in labor June 13, 1907, at 12.30 A.M. Justominor pelvis; true conjugate 6.5 cm. (2⅗ in.). Twelve hours' labor; Cesarean section. Baby delivered in 3½ minutes; time of operation, 37 minutes. Weight of baby, 7¼ pounds. Mother and infant left the hospital in good condition on the twenty-sixth day.

These four sections were performed within three weeks, and two of them on the same day.

(e) *The Indications for Symphysiotomy and Pubiotomy.* The objections to these methods of delivery are the tedious and painful after-treatment and retarded convalescence. A retention catheter will obviate the difficulty and pain of catheterization. The necessity of keeping the bones in apposition, the maintenance of the back position for two or three weeks, the difficulty of keeping the parts clean, of giving vaginal douches and proper attention to the evacuation of the bowels, are some of the serious drawbacks to either operation. The employment of a bedpan or douche pan is so painful that, for the first week, it renders life almost unbearable. Unless one is provided with a special bed, it is well to use a cot having a canvas cover, with a hole cut out beneath the buttocks, to permit these attentions without moving the patient.

Complications met with afterward are: tearing of the anterior vaginal wall, œdema or hematoma of the vulva, foul-smelling lochial discharge, fever, and septic phlebetis. The maternal mortality after symphysiotomy and pubiotomy is practically *nil* in the primary operations. Deaths occurring after the secondary operations are due to infection and complications resulting from ineffectual efforts at delivery by forceps before resorting to these operations. Pubiotomy seems to offer little, if any, advantages over symphysiotomy. In a study of this operation in America, I was able to collect 20 cases—12 primary, with no maternal death, and 8 secondary, with 4 deaths. On account of the serious objections stated, I believe it will seldom be performed as a primary operation. Symphysiotomy and pubiotomy will, however, remain useful expedients when one is forced to resort to one or the other in preference to craniotomy upon a living child. When the woman has been exhausted by prolonged labor, by manipulations, by the use of forceps, and when the parts are contused and lacerated, and she is probably infected, nothing else remains to be done.

The following case came under my care recently:

On returning to Washington, October 1, 1907, from a vacation, my attention was called by my associate, Dr. Edgar Snowden, to Mrs. B., a primipara, seven and a half months pregnant. Her husband was in the navy, and she had come from his station in Samoa to be confined. She had a justominor pelvis, and my investigation confirmed his measurements. They were as follows: Interspinous, 23 cm.; intercrestal, 24 cm.; external conjugate, 18 cm.; external obliques, right, 23 cm.; left, 22 cm.; diagonal conjugate, 11 cm.; estimated true conjugate, 9 cm. ($3\frac{3}{5}$ inches). Palpation: Large uterine tumor; normal quantity of amniotic fluid; large infant.

At the time of my examination she had reached the thirty-second week of gestation. The head could be made to engage within the brim at weekly examinations, made to the thirty-seventh week. Cesarean section was considered, but the case gave promise of successful delivery by induced labor. She entered my private hospital, and premature labor was induced after some delay. A bougie was inserted, removed, and replaced the following day. No pains having been excited, the lower segment was packed with gauze. Labor began November 4, 1907. The membranes ruptured spontaneously at 8 A.M.; os dilated at 2 P.M., head partially engaged with occiput posteriorly. At 4.30 forceps were employed without success. Patient was taken to the operating room and axis-traction employed with the patient in the Walcher position. The head was brought down into the cavity with a persistent occipitoposterior position. The head was large and well ossified. Effort at manual rectification failed, on account of the small pelvic space. The infant's heart-sounds were strong, and craniotomy was, therefore, considered to be contraindicated. The promising time for Cesarean section had passed, because of the eight hours of hard labor, the manipulations with bougies and gauze packing, the insertion of the hand in the effort to rotate the head, and finally the attempts to deliver by forceps. Symphysiotomy was then performed. The joint separated only 1 cm., which increased to 3 cm. during forceps extraction. The head was delivered with the occiput posterior. The perineum was lacerated in the second degree, and the anterior vaginal wall was torn from its pubic attachment. There was no hemorrhage. Lacerations were sewed up and the patient bandaged and put to bed. The highest temperature was reached on the third day—100.4°. There was marked œdema of the left labium major from the sixth to the tenth day. The perineal stitches of silkworm gut were removed on the thirteenth day, and perfect union resulted. The laceration of the anterior vaginal attachment healed satisfactorily. There was some odor to the lochia for eight days. Examination on the seventeenth day showed good union of the symphysis, except a V-shaped indentation at the lower border. The patient turned on her side, and no movement was felt at the joint. Slight motion was possible at the symphysis by grasping the iliac crests and rocking the pelvis. The infant weighed 9¾ pounds and was none the worse for the delivery, except an abrasion on the neck behind the right ear.

The large size of the infant and the persistent occipito-posterior position prevented a successful delivery with the forceps. In the event of a subsequent pregnancy, I should perform an elective Cesarean section and sterilize the patient. She left the hospital at the end of the fifth week, herself and baby in good condition. The joint union was firm and she walked well.

Another indication for selecting symphysiotomy or pubiotomy may also be recognized when facilities are not at hand for performing Cesarean section.

(*f*) *Craniotomy.* The indications recognized for performing craniotomy are after prolonged labor, or failure of version or forceps, and the infant is dead or dying. The diminution of the true conjugate must not be below the limits of an absolute indication for Cesarean section. If craniotomy be rejected on account of the chances of saving the child, symphysiotomy or pubiotomy must be performed if the woman is not in a condition for Cesarean section.

TABULAR REPORT OF EIGHTEEN CESAREAN SECTIONS.

Case.	Date.	Color.	Diameters in centimeters.							Hours labor.	Previous labors.	Indication for operation.	Result to mother.	Result to infant.	Weight of infant.	Remarks.
			Inter-spinous.	Inter-cristal.	Right oblique.	Left oblique.	Conjugate externa.	Conjugate diagonal.	Conjugate vera.							
1	Feb. 9, 1890.	W	19.0	14.0			14.0		4.0	30	0	Absolute; dwarf; flat; generally contracted.	Recovered.	Lived.		Reported in Transactions of American Gynecological Society, 1890.
2	Aug. 1894.	W								0	0	Rachitic; flat; absolute.	Recovered.	Lived.		Elective operation; patient of Dr. W. S. Bowen. Operation at Garfield Hospital; records lost.
3	Mar. 13, 1903.	C	23.5	25.0			19.5			48	2 normal.	Normal pelvis; ventrofixation.	Recovered.	Lived.	6 lbs. 12 oz.	Dystocia due to ventrofixation.
4	Apr. 14, 1903.	C	23.0	23.0	19.0	18.0	16.0	9.0	7.0	20	0	Flat; generally contracted.	Recovered.	Died.	5 lbs. 13 oz.	Absolute indication; infant stillborn.
5	Oct. 13, 1903.	C								0	0	Elective; hip-joint disease; obliquely contracted pelvis.	Recovered.	Lived.	8 lbs.	Scoliosis; rachitic, flat pelvis; absolute indication; operation at Garfield Hospital; records lost.
6	Nov. 17, 1903.	C	24.0	28.0	22.0	22.0	17.0	8.0	6.5	12	0	Flat, rachitic pelvis; absolute.	Recovered.	Lived.	7 lbs. 4 oz.	Head not engaged; absolute indication.
7	Feb. 22, 1904.	W	23.5	26.5	19.5					0	2 normal.	Fibroid in pelvis.	Recovered.	Died.	3 lbs.	Normal pelvis; operation at seventh month of pregnancy; Porro.
8	June 2, 1904.	W								0	0	Normal pelvis; placenta prævia.	Recovered.	Died.		Primipara; placenta prævia centralis, 6½ months; cervix contracted; severe hemorrhage; baby lived few hours.
9	Dec. 4, 1904.	C	19.0	20.5	20.5	20.5	17.5	8.0	6.5	0	2 long and difficult; 2 dead.	Flat; generally contracted.	Recovered.	Lived.	7 lbs.	No record of length of labor; indications absolute.
10	Dec. 19, 1904.	W	24.0	27.0	22.0	22.0	20.0			40	0	Funnel-shaped pelvis.	Died.	Lived.	9 lbs. 4 oz.	Forceps failed; head in cavity; outlet contracted; pelvic inlet normal.
11	Mar. 18, 1905.	W	25.0	22.0			18.0	9.5	8.0	18	0	Simple flat pelvis.	Recovered.	Lived.	4 lbs. 12 oz.	Head could not engage.
12	Dec. 6, 1905.	C	22.0	23.0	18.0	19.0	17.0	9.0	7.0	16	0	Justominor.	Recovered.	Lived.	7 lbs. 12 oz.	Head could not be made to engage by pressure under chloroform.
13	Jan. 18, 1906.	W	21.5	25.5	20.5	20.5	18.0	6.5	5.0	0	0	Dwarf; absolute; generally contracted flat pelvis.	Recovered.	Lived.	6 lbs. 4 oz.	Elective operation.
14	May 25, 1907.	C	23.5	25.0	19.5	19.0	16.5	10.0	8.5	17	0	Generally contracted flat pelvis.	Recovered.	Lived.	8 lbs. 12 oz.	Forceps attempted; head could not be pressed into inlet under chloroform.
15	May 27, 1907.	C	21.0	23.5	20.0	19.5	16.5	8.5	7.0	21	1 dead baby.	Justominor.	Recovered.	Lived.	7 lbs. 6 oz.	Head not engaged and could not be pressed into inlet under chloroform.
16	May 27, 1907.	C	21.0	23.5	18.5	19.5	17.0	11.0	9.0	12	0	Justominor; head not engaged.	Recovered.	Lived.	5 lbs. 14 oz.	Head could not be pressed into brim under chloroform.
17	June 13, 1907.	C	20.0	22.0	18.0	18.5	14.0	8.0	6.5	20	0	Justominor; head not engaged.	Recovered.	Lived.	7 lbs. 4 oz.	Head could not be made to engage under chloroform; absolute.
18	Oct. 13, 1907.	W	25.0	28.0			20.5	10.5	9.0	3	3 high forceps; 1 alive, 2 dead.	Simple contraction; head not engaged.	Recovered.	Lived.	9 lbs. 12 oz.	Previous labors were difficult; axis traction forceps, and with babies dead.

Of the 18 operations reported in tabular form, 10 were on colored women, and 8 on white women. The 18 sections were performed within a period of eighteen years. Two were done within the first thirteen years of that period, and 16 in the last five years. The larger number of operations in the latter period is accounted for by the fact that the relative indications for performing Cesarean section have gradually been broadened to embrace those cases which were formerly submitted to high forceps and version. The results have shown no increase of danger to the mother and they have recovered without sepsis and lacerations of the birth canal. In regard to the infants, we notice this difference: living babies are now carried away by the mothers, and not dead babies by the undertaker. Of the 18 infants, 16 were viable, and 15 lived. Three of the cases of pelvic deformity (IX, XV, XVIII) had previously given birth to 6 infants—1 alive and 5 dead. The dead babies had been delivered by difficult high forceps operations. High forceps extraction in these cases at the Columbian Hospital has produced 7 dead infants in the last 20 operations, with a fœtal mortality of nearly 33 per cent.

The only viable baby lost was in Case IV. It weighed 5 pounds 13 ounces. The other 2 dead infants were 1 (Case VII) at the seventh month, weighing 3 pounds, removed by Cesarean section for a fibroid blocking the pelvis; and 1 (Case VIII) removed at six and a half months of pregnancy for placenta prævia centralis.

Thirteen of the women were primiparæ; 5 had previously given birth to children. Three have already been mentioned; 2 had had 2 babies each normally, because there was no pelvic deformity. They were Cases III and VII, who were operated upon for the result of a previous ventrofixation and for fibroid in the pelvis.

The indications for Cesarean section were absolute in 8 cases.

Of the 15 cases of pelvic deformity, the following classification was made: Justominor and flat, generally contracted pelves, 9; rachitic flat pelves, 3; simple flat pelves, 2; funnel-shaped pelvis, 1.

The fatal maternal case was in a primipara with a funnel-shaped pelvis. She had been in labor thirty-six hours, and forceps had been applied four times. My preference was for symphysiotomy, but the family requested Cesarean section. The woman was the wife of a naval officer, and it was desired to make her sterile, as subsequent pregnancies might occur at some point removed from skilled assistance. Death occurred on the third day from acute dilatation of the stomach. The baby lived.

The symptoms appeared soon after the patient was removed from the operating table. The pulse increased to 130 and the temperature to 101° the same evening. The next morning the abdomen was distended. Insertion of a rectal tube and high enemas gave no result. On the second day the bowels moved freely from hypodermic injections of eserine salicylate. There was little vomiting; some gas escaped by eructation. Calomel was given in small repeated doses;

food and stimulants were retained. On the third day the distention increased, the pulse became more rapid and feeble, and death occurred. The autopsy revealed the peritoneum clean and free from infection and the uterine incision healed. The intestines were empty up to within a few inches of the stomach, where the duodenum was found kinked or twisted longitudinally upon itself. The stomach was enormously distended. The use of a stomach-tube and postural treatment would most likely have saved the patient. The true condition was not recognized at the time.

Case XV of the series tabulated presented postoperative symptoms of a similar character, but was promptly relieved by washing out the stomach.

THE CLINICAL AND PATHOLOGICAL ASPECTS OF RODENT ULCER.

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In 1827 Jacob,[1] of Dublin, was the first to describe rodent ulcer as a distinct clinical entity, as did Lebert[2] in 1851. In 1865 Thiersch described very fully as a form of superficial carcinoma of the face that which for many years had been spoken of as rodent ulcer on account of its clinical course. Since his time the lesion has been much written about, both from the clinical and the pathological aspects. The clinical history in all cases is very similar. Bland-Sutton, J. C. Warren, Kaufman, and others who have written upon the subject, describe the condition in about the same words. The description given by Bland-Sutton[3] is concise and comprehensive: "In its common form, a smooth, rounded knob of about the size of a split pea is noticed on the skin of the face, either on the nose, eyelids, orbital angles or cheek. This knob may remain for years (seven, eight, or even twelve), and cause no inconvenience save unsightliness; then, without obvious reasons, it may ulcerate and destroy the surrounding tissues, involving all tissues in its vicinity—skin, muscles, fat, cartilage, eyeball, and bone—and producing horrible destruction of the bone, in some cases even destroying the base of the skull and the meninges and exposing the brain. To produce such terrible effects the disease requires five, ten, or even more years. In its course it destroys everything, never cicatrizes, and is painless. Although rodent cancer arises mainly in the facial situations already mentioned, it may occur on the neck and the pinna; it has been met

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[1] Dublin Hosp. Reports, 1827.

[2] Traité pratique des maladies cancéreuses, Paris, 1851.

[3] Tumors, Innocent and Malignant, 1903.